

WHAT IS CLAIMED IS:

1. A radio communication system comprising:
a radio reception unit for receiving a radio
signal, extracting a characteristic of the received
radio signal, and converting the received radio signal
into a reception signal; and
a reception signal processing unit for converting
the reception signal into reception data on the basis
of the extracted characteristic of the radio signal.
- 10 2. The system according to claim 1, wherein the
radio reception unit comprises a receiver for receiving
the radio signal, a radio signal characteristic
extractor for extracting the characteristic of the
received radio signal, and a reception radio signal
converter for converting the received radio signal into
the reception signal, and
the reception signal processing unit comprises a
demodulator for demodulating the reception signal by
selecting a demodulation scheme on the basis of the
extracted characteristic of the radio signal, a
20 reception communication protocol processing unit for
executing a communication protocol process of the
demodulated reception signal by selecting a
communication protocol processing scheme on the basis
of the extracted characteristic of the radio signal,
and a decoder for decoding the reception signal, that
25 has undergone the communication protocol process, by

selecting a decoding scheme on the basis of the extracted characteristic of the radio signal.

3. The system according to claim 2, wherein the reception radio signal converter converts the received radio signal into the reception signal by selecting a conversion scheme on the basis of the extracted characteristic of the radio signal.

4. The system according to claim 1, further comprising:

10 a transmission signal processing unit for
converting transmission data into a transmission signal
on the basis of the extracted characteristic of the
radio signal; and

15 a radio transmission unit for converting the transmission signal into a radio signal, and transmitting the converted radio signal.

5. The system according to claim 4, wherein the
transmission signal processing unit comprises an
encoder for encoding the transmission data by selecting
an encoding scheme on the basis of the extracted
characteristic of the radio signal, a transmission
communication protocol processing unit for executing a
communication protocol process of the encoded
transmission data by selecting a communication protocol
processing scheme on the basis of the extracted
characteristic of the radio signal, and a modulator for
modulating the transmission data, that has undergone

the communication protocol process, by selecting a modulation scheme on the basis of the extracted characteristic of the radio signal, and

5 said radio transmission unit comprises a transmission radio signal converter for converting the modulated transmission data into a radio signal, and a radio transmitter for transmitting the converted radio signal.

10 6. The system according to claim 5, wherein said transmission radio signal converter converts the modulated transmission data into the radio signal by selecting a conversion scheme on the basis of the extracted characteristic of the radio signal.

15 7. An electronic apparatus with a radio communication function, comprising:

 a radio reception unit for receiving a radio signal, extracting a characteristic of the received radio signal, and converting the received radio signal into a reception signal; and

20 a reception signal processing unit for converting the reception signal into reception data on the basis of the extracted characteristic of the radio signal.

25 8. An apparatus according to claim 7, wherein said radio reception unit comprises a receiver for receiving the radio signal, a radio signal characteristic extractor for extracting the characteristic of the received radio signal, and

a reception radio signal converter for converting the received radio signal into the reception signal, and the reception signal processing unit comprises a demodulator for demodulating the reception signal by 5 selecting a demodulation scheme on the basis of the extracted characteristic of the radio signal, a reception communication protocol processing unit for executing a communication protocol process of the demodulated reception signal by selecting a communication protocol processing scheme on the basis 10 of the extracted characteristic of the radio signal, and a decoder for decoding the reception signal that has undergone the communication protocol process by selecting a decoding scheme on the basis of the extracted characteristic of the radio signal. 15

9. The apparatus according to claim 8, wherein said reception radio signal converter converts the received radio signal into the reception signal by selecting a conversion scheme on the basis of the extracted characteristic of the radio signal. 20

10. The apparatus according to claim 7, further comprising:

a transmission signal processing unit for 25 converting transmission data into a transmission signal on the basis of the extracted characteristic of the radio signal; and

a radio transmission unit for converting the

transmission signal into a radio signal, and transmitting the converted radio signal.

11. The apparatus according to claim 10, wherein
the transmission signal processing unit comprises an
encoder for encoding the transmission data by selecting
an encoding scheme on the basis of the extracted
characteristic of the radio signal, a transmission
communication protocol processing unit for executing a
communication protocol process of the encoded
transmission data by selecting a communication protocol
processing scheme on the basis of the extracted
characteristic of the radio signal, and a modulator for
modulating the transmission data, that has undergone
the communication protocol process, by selecting a
modulation scheme on the basis of the extracted
characteristic of the radio signal, and
the radio transmission unit comprises a
transmission radio signal converter for converting the
modulated transmission data into a radio signal, and a
radio transmitter for transmitting the converted radio
signal.

12. The apparatus according to claim 11, wherein
said transmission radio signal converter converts the
modulated transmission data into the radio signal by
selecting a conversion scheme on the basis of the
extracted characteristic of the radio signal.

13. A semiconductor integrated circuit device for

a radio communication, comprising:

a receiver for receiving a radio signal;

a radio signal characteristic extractor for extracting a characteristic of the received radio signal; and

5 a reception radio signal converter for converting the received radio signal into a reception signal.

14. The device according to claim 13, wherein the reception radio signal converter converts the received radio signal into the reception signal by selecting a conversion scheme on the basis of the extracted characteristic of the radio signal.

15. The device according to claim 13, further comprising:

15 a transmission radio signal converter for converting modulated transmission data into a radio signal; and

a radio transmitter for transmitting the converted radio signal.

20 16. The device according to claim 15, wherein the transmission radio signal converter converts the modulated transmission data into the radio signal by selecting a conversion scheme on the basis of the extracted characteristic of the radio signal.

25 17. A semiconductor integrated circuit device for a radio communication, comprising:

a demodulator for demodulating a reception signal

by selecting a demodulation scheme on the basis of an extracted characteristic of a radio signal;

5 a reception communication protocol processing unit for executing a communication protocol process of the demodulated reception signal by selecting a communication protocol processing scheme on the basis of the extracted characteristic of the radio signal; and

10 a decoder for decoding the reception signal, that has undergone the communication protocol process, by selecting a decoding scheme on the basis of the extracted characteristic of the radio signal.

15 18. The device according to claim 17, further comprising:

15 an encoder for encoding transmission data by selecting an encoding scheme on the basis of an extracted characteristic of a radio signal;

20 a transmission communication protocol processing unit for executing a communication protocol process of the encoded transmission data by selecting a communication protocol processing scheme on the basis of the extracted characteristic of the radio signal; and

25 a modulator for modulating the transmission data, that has undergone the communication protocol process, by selecting a modulation scheme on the basis of the extracted characteristic of the radio signal.

19. The device according to claim 18, further

comprising:

5 a receiver for receiving the radio signal;
 a radio signal characteristic extractor for
 extracting a characteristic of the received radio
 signal;
 a reception radio signal converter for converting
 the received radio signal into the reception signal;
 a transmission radio signal converter for
 converting the modulated transmission data into a radio
10 signal; and
 a radio transmitter for transmitting the converted
 radio signal.

20. The device according to claim 19, wherein the
reception radio signal converter converts the received
15 radio signal into the reception signal by selecting a
 conversion scheme on the basis of the extracted
 characteristic of the radio signal, and

20 the transmission radio signal converter converts
 the modulated transmission data into the radio signal
 by selecting a conversion scheme on the basis of the
 extracted characteristic of the radio signal.

21. A radio communication method comprising the
steps of:

25 receiving a radio signal;
 extracting a characteristic of the received radio
 signal from the received radio signal;
 converting the received radio signal into

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a reception signal by selecting a conversion scheme on the basis of the extracted characteristic of the radio signal;

5 demodulating the reception signal by selecting a demodulation scheme on the basis of the extracted characteristic of the radio signal;

10 executing a communication protocol process of the demodulated reception signal by selecting a communication protocol processing scheme on the basis of the extracted characteristic of the radio signal; and

15 decoding the reception signal, that has undergone the communication protocol process, by selecting a decoding scheme on the basis of the extracted characteristic of the radio signal.

22. The method according to claim 21, further comprising the steps of:

20 encoding a transmission signal by selecting a conversion scheme on the basis of an extracted characteristic of a radio signal;

executing a communication protocol process of the encoded transmission signal by selecting a communication protocol processing scheme on the basis of the extracted characteristic of the radio signal;

25 modulating the transmission signal, that has undergone the communication protocol process, by selecting a modulation scheme on the basis of the

extracted characteristic of the radio signal;

converting the modulated transmission signal into a radio signal by selecting a conversion scheme on the basis of the extracted characteristic of the radio signal; and

transmitting the radio signal.

23. A radio communication system comprising:

a radio reception unit for receiving a radio signal, extracting a characteristic of the received radio signal, and converting the received radio signal into a reception signal;

a modem/baseband reception/transmission signal processing unit for executing a reception signal process of the reception signal by selecting a reception signal processing scheme on the basis of the extracted characteristic of the radio signal, and converting transmission data into a transmission signal by selecting a transmission signal processing scheme on the basis of the extracted characteristic of the radio signal; and

a radio transmission unit for converting the transmission signal into a radio signal, and transmitting the converted transmission signal.

24. The system according to claim 23, wherein the radio reception unit comprises a receiver for receiving the radio signal, a radio signal characteristic extractor for extracting a characteristic of the

received radio signal, and a reception radio signal converter for converting the received radio signal into the reception signal,

5 the reception radio signal converter converts the received radio signal into the reception signal by selecting a conversion scheme on the basis of the extracted characteristic of the radio signal,

10 the radio transmission unit comprises a transmission radio signal converter for converting the modulated transmission data into a radio signal, and a radio transmitter for transmitting the converted radio signal, and

15 the transmission radio signal converter converts the modulated transmission data into the radio signal by selecting a conversion scheme on the basis of the extracted characteristic of the radio signal.

25. An electronic apparatus with a radio communication function, comprising:

20 a radio reception unit for receiving a radio signal, extracting a characteristic of the received radio signal, and converting the received radio signal into a reception signal;

25 a modem/baseband reception/transmission signal processing unit for executing a reception signal process of the reception signal by selecting a reception signal processing scheme on the basis of the extracted characteristic of the radio signal, and

converting transmission data into a transmission signal by selecting a transmission signal processing scheme on the basis of the extracted characteristic of the radio signal; and

5 a radio transmission unit for converting the transmission signal into a radio signal, and transmitting the converted transmission signal.

26. The apparatus according to claim 25, wherein the radio reception unit comprises a receiver for receiving the radio signal, a radio signal characteristic extractor for extracting a characteristic of the received radio signal, and a reception radio signal converter for converting the received radio signal into the reception signal,

15 the reception radio signal converter converts the received radio signal into the reception signal by selecting a conversion scheme on the basis of the extracted characteristic of the radio signal,

the radio transmission unit comprises a transmission radio signal converter for converting the modulated transmission data into a radio signal, and a radio transmitter for transmitting the converted radio signal, and

25 the transmission radio signal converter converts the modulated transmission data into the radio signal by selecting a conversion scheme on the basis of the extracted characteristic of the radio signal.

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27. A semiconductor integrated circuit device for a radio communication, comprising:

5 a demodulator/baseband reception signal processing unit for executing a reception signal process of a reception signal by selecting a reception signal processing scheme on the basis of an extracted characteristic of a radio signal; and

10 a modulator/baseband reception signal processing unit for executing a transmission signal process of a reception signal by selecting a transmission signal processing scheme on the basis of the extracted characteristic of the radio signal.

28. The device according to claim 27, further comprising:

15 a receiver for receiving the radio signal;
 a radio signal characteristic extractor for
extracting a characteristic of the received radio
signal;
 a reception radio signal converter for converting
the received radio signal into the reception signal;
 a transmission radio signal converter for
converting the modulated transmission data into a radio
signal; and
 a radio transmitter for transmitting the converted
radio signal.
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29. The device according to claim 28, wherein the reception radio signal converter converts the received

radio signal into the reception signal by selecting a conversion scheme on the basis of the extracted characteristic of the radio signal, and

5 the transmission radio signal converter converts the modulated transmission data into the radio signal by selecting a conversion scheme on the basis of the extracted characteristic of the radio signal.

30. A radio communication method comprising the steps of:

10 receiving a radio signal;
extracting a characteristic of the received radio signal from the received radio signal;
converting the received radio signal into a reception signal by selecting a conversion scheme on the basis of the extracted characteristic of the radio signal;

15 executing a reception signal process of the reception signal by selecting a reception signal processing scheme on the basis of the extracted characteristic of the radio signal;

20 executing a transmission signal process of the encoded transmission signal by selecting a transmission signal processing scheme on the basis of the extracted characteristic of the radio signal;

25 converting the transmission signal, that has undergone the transmission signal process into a radio signal, by selecting a conversion scheme on the basis

of the extracted characteristic of the radio signal;
and

transmitting the radio signal.